

DUAL-PURPOSE ANTI-REFLECTIVE COATING AND SPACER FOR FLASH MEMORY AND OTHER DUAL GATE TECHNOLOGIES AND METHOD OF FORMING

ABSTRACT OF THE DISCLOSURE

A dual gate semiconductor device, such as a FLASH memory semiconductor device, whose plurality of dual gate sidewall spacer structure is formed by a first and second anti-reflection fabrication process. The sidewall spacers of the dual transistor gate structures in the core memory region are left coated with the second anti-reflective coating material, after being used for gate patterning, to act as sidewall spacers for use in subsequent ion implant and salicidation fabrication steps. The second anti-reflective coating material is selected from a material group such as silicon oxynitride (SiON), silicon nitride (Si_3N_4), and silicon germanium (SiGe), or other anti-reflective coating material having optical properties and that are compatible with the subsequent implant and salicidation steps.